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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,294	10/03/2003	Karl W. Gallis	02-212A (80633)	9648

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Carlos Nieves, Esq.
J. M. HUBER CORPORATION
Law Department
333 Thornall Street
Edison, NJ 08837

EXAMINER	
KRASS, FREDERICK F	

ART UNIT	PAPER NUMBER
1614	

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/677,294	GALLIS ET AL.
	Examiner	**Art Unit**
	Frederick F. Krass	1614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-32 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) 1-32 is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on 03 October 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☐ All b)☐ Some * c)☐ None of:
1.☐ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date [redacted] 13 Jan 2004
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Informalities

Claim 15, the phrase “wherein the silica” is needlessly repeated twice. Correction is required.

Indefiniteness Rejection

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1) The term "superior" in claim 12 (second line) is a relative term which renders the claim indefinite. The term "superior" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Whether a given increase in flavor compatibility is “superior” or not will depend purely on the subjective fancy of the individual involved; what is “superior” to one may not be so to

another. Accordingly, the examiner recommends replacing the subjective term "superior" with the empirical term "increased" in order to obviate this ground of rejection.

2) Claim 26, penultimate line, there is no antecedent basis for reciting "the surface area reduction step."

Obviousness Rejection

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1) Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 93/23007.

The prior art discloses dentifrices comprising precipitated silica aggregates having increased CPC compatibility. See especially working example 1 at pp. 8-10, wherein silica having a particle size of 8 micrometers (p. 8, line 22) and CPC compatibility of 73 percent (p. 10, line 16) was produced. See also working example 5, where a compatibility value for chlorohexidine, an antimicrobial closely related to CPC, of 83 percent was achieved (last line page 12).

The prior art thus differs from the instant claims insofar as it does not specifically disclose silica particles having a cumulative surface area for all pores having diameters greater than 500 angstroms of less than $8mg^2/g$, as measured by mercury intrusion. It also does not specify a BET specific surface area of less than approximately 30 square meters per gram as required by claim 5. The prior art does, however, clearly teach that thermal dehydroxylation treatment may be carried out to reduce loss on ignition (LOI) -

thus increasing particle stability - by reducing both porosity and surface area, with levels being reduced almost to zero by such treatment. See p. 5, lines 16-24.

Normally, changes in result effective variables are not patentable where the difference involved is one of degree, not of kind; experimentation to find workable conditions generally involves the application of no more than routine skill in the art. In re Aller 105 USPQ 233, 235 (CCPA 1955). Similarly, the determination of optimal values within a disclosed range is generally considered obvious. In re Boesch, 205 USPQ 215 (CCPA 1980). See also In re Peterson, 315 F.3d 1325 (C.A. Fed. 2003). (That court reaffirming the previous Aller and Boesch decisions, stating at page 1330 that: "[t]he normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a set of disclosed percentage ranges is the optimum combination of percentages.") Accordingly, it would have been obvious to have minimized porosity and surface area of the prior art silica particles by subjecting them to thermal dehydroxylation in order to optimize their stability as taught by the prior art at p. 5, lines 16-24, consonant with the reasoning of the cited case law. In reducing porosity and surface area in this manner, it would have been obvious to have arrived at the instantly claimed porosity (cumulative surface area for all pores of greater than 500 angstroms of less than $8mg^2/g$) and surface area (BET specific surface area of less than 30 square meters per gram (as recited by claim 5) values, where such represented the optimum values for a given silica particulate.

2) Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dromard et al (USP 5,989,524) in view of WO 93/23007.

The primary reference discloses dentifrices comprising precipitated silica aggregates whose particles have a size range of 1 to 60 micrometers (col. 5, lines 27-31), and which have percent CPC compatibility values as high as 82 percent (see Table 2 at col. 11). Accordingly, the primary reference differs from the instant claims insofar as it does not set forth any specific surface area, i.e. a cumulative surface area for all pores of greater than 500 angstroms of less than $8mg^2/g$ (as recited throughout the claims), or a BET specific surface area of less than 30 square meters per gram (as recited by claim 5).

The secondary reference discloses dentifrices comprising precipitated silica aggregates having increased CPC compatibility. See especially working example 1 at pp. 8-10, wherein silica having a particle size of 8 micrometers (p. 8, line 22) and CPC compatibility of 73 percent (p. 10, line 16) was produced. See also working example 5, where a compatibility value for chlorohexidine, an antimicrobial closely related to CPC, of 83 percent was achieved (last line page 12).

The secondary reference thus differs from the instant claims insofar as it does not specifically disclose silica particles having a cumulative surface area for all pores having diameters greater than 500 angstroms of less than $8mg^2/g$, as measured by mercury intrusion. It also does not specify a BET specific surface area of less than approximately 30 square meters per gram as required by claim 5. It does, however, clearly teach that thermal dehydroxylation treatment may be carried out to reduce loss on ignition (LOI) - thus increasing particle stability - by reducing both porosity and surface area, with levels being reduced almost to zero by such treatment. See p. 5, lines 16-24.

Normally, changes in result effective variables are not patentable where the difference involved is one of degree, not of kind; experimentation to find workable conditions generally involves the application of no more than routine skill in the art. In re Aller 105 USPQ 233, 235 (CCPA 1955). Similarly, the determination of optimal values within a disclosed range is generally considered obvious. In re Boesch, 205 USPQ 215 (CCPA 1980). See also In re Peterson, 315 F.3d 1325 (C.A. Fed. 2003). (That court reaffirming the previous Aller and Boesch decisions, stating at page 1330 that: "[t]he normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a set of disclosed percentage ranges is the optimum combination of percentages.") Accordingly, it would have been obvious to have minimized porosity and surface area of the primary reference silica particles by subjecting them to thermal dehydroxylation in order to optimize their stability as taught by the secondary reference at p. 5, lines 16-24, consonant with the reasoning of the cited case law. In reducing porosity and surface area in this manner, it would have been obvious to have arrived at the instantly claimed porosity (cumulative surface area for all pores of greater than 500 angstroms of less than $8mg^2/g$) and surface area (BET specific surface area of less than 30 square meters per gram (as recited by claim 5) values, where such represented the optimum values for a given silica particulate.

Obviousness-Type Double Patenting Rejection

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-32 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-33 of U.S. Patent No. 6,946,119 in view of WO 93/23007.

The conflicting claims of the patent are substantially the same as those of the instant Application, except that they do not specify a cumulative surface area for all pores of greater than 500 angstroms of less than 8mg^2/g.

The secondary reference discloses dentifrices comprising precipitated silica aggregates having increased CPC compatibility. See especially working example 1 at pp. 8-10, wherein silica having a particle size of 8 micrometers (p. 8, line 22) and CPC compatibility of 73 percent (p. 10, line 16) was produced. See also working example 5, where a compatibility value for chlorohexidine, an antimicrobial closely related to CPC, of 83 percent was achieved (last line page 12).

The secondary reference thus differs from the instant claims insofar as it does not specifically disclose silica particles having a cumulative surface area for all pores having diameters greater than 500 angstroms of less than $8mg^2/g$, as measured by mercury intrusion. It does, however, clearly teach that thermal dehydroxylation treatment may be carried out to reduce loss on ignition (LOI) - thus increasing particle stability - by reducing both porosity and surface area, with levels being reduced almost to zero by such treatment. See p. 5, lines 16-24.

Normally, changes in result effective variables are not patentable where the difference involved is one of degree, not of kind; experimentation to find workable conditions generally involves the application of no more than routine skill in the art. In re Aller 105 USPQ 233, 235 (CCPA 1955). Similarly, the determination of optimal values within a disclosed range is generally considered obvious. In re Boesch, 205 USPQ 215 (CCPA 1980). See also In re Peterson, 315 F.3d 1325 (C.A. Fed. 2003). (That court reaffirming the previous Aller and Boesch decisions, stating at page 1330 that: "[t]he normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a set of disclosed percentage ranges is the optimum combination of percentages.") Accordingly, it would have been obvious to have minimized porosity of the silica particles of the conflicting claims by subjecting them to dehydroxylation in order to optimize their stability as taught by the secondary reference at p. 5, lines 16-24, consonant with the reasoning of the cited case law. In doing so, it would have been obvious to have arrived at the instantly claimed porosity (cumulative surface area for all pores of greater than 500 angstroms of less than $8mg^2/g$) values, where such represented the optimum values for a given silica particulate.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frederick F. Krass whose telephone number is 571-272-0580. The examiner's schedule is 9:30AM – 6:00PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low can be reached at 571-272-0951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frederick Krass
Primary Examiner
Art Unit 1614